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THE IMPACT OF PUBLIC BORROWING ON MARKET RISK PERCEPTION: DYNAMICS OF FISCAL DOMINANCE IN TURKEY*

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ABSTRACT

In the Turkish economy, fiscal dominance has a significant impact on economic indicators such as the sustainability of public debt stock, CDS spreads, and nominal exchange rates. The main problem of this study is to understand the interaction between fiscal dominance and financial markets. The research aims to analyze the relationship between financial dominance and CDS premiums and nominal exchange rates using quarterly data from the period 2009:Q1–2024:Q3. The stationarity of the series was evaluated using DF-GLS and Phillips-Perron unit root tests, and long-term relationships were identified using the Fourier-Shin cointegration test. Coefficient estimates were made using the Dynamic Ordinary Least Squares (DOLS) method, and short- and

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long-term causalities were examined using the Breitung and Candelon frequency domain causality test. The results indicate that CDS spreads and the nominal exchange rate have limited effects on financial dominance and that financial dominance is more shaped by internal dynamics. The study emphasizes the importance of using broader indicators in the analysis of financial dominance.

Keywords: Financial Dominance, Frequency Domain Causality Test, CDS Spreads, Nominal Exchange Rate

ÖZET

Türkiye ekonomisinde mali baskınlık, kamu borç stokunun sürdürülebilirliği, CDS primleri ve nominal kur gibi ekonomik göstergeler üzerinde önemli bir etkiye sahiptir. Bu çalışmanın temel problemi, mali baskınlık ve finansal piyasalar arasındaki etkileşimin anlaşılmasıdır. Araştırma, mali baskınlık ile CDS primleri ve nominal kur arasındaki ilişkiyi 2009:Q1–2024:Q3 dönemi çeyreklik verileri kullanarak analiz etmeyi amaçlamaktadır. DF-GLS ve Phillips-Perron birim kök testleri ile serilerin durağanlıkları değerlendirilmiş, Fourier-Shin eşbütünleşme testiyle uzun dönemli ilişkiler tespit edilmiştir. Dinamik En Küçük Kareler (DOLS) yöntemiyle katsayı tahminleri yapılmış, Breitung ve Candelon frekans alanı nedensellik testiyle kısa ve uzun dönem nedensellikler incelenmiştir. Sonuçlar, CDS primleri ve nominal kurun mali baskınlık üzerinde sınırlı etkileri olduğunu ve mali baskınlığın daha çok içsel dinamikler tarafından şekillendiğini göstermektedir. Çalışma, mali baskınlık analizlerinde daha geniş göstergelerin kullanımının önemini vurgulamaktadır.

Anahtar Kelimeler: Mali Baskınlık, Frekans Alanı Nedensellik Testi, CDS Primleri, Nominal Kur

1. INTRODUCTION

The primary motivation of this study is to analyze the relationships between fiscal dominance, defined as a reflection of the stress induced by public debt in the markets, and exchange rate volatility as well as market risk perception. In the literature, fiscal dominance can be represented by various indicators but fundamentally reflects the pressure exerted by public finances on financial markets within the context of sustainability. A review of the related literature reveals that fiscal dominance has been explored through limited theoretical and empirical studies, many of which rely on outdated data. The lack of studies employing contemporary data creates a significant gap in understanding the effects of fiscal dominance on current economic and financial indicators. This study aims to address this gap by analyzing the relationships between fiscal dominance and selected indicators using up-to-date data.

In this context, the ratio of net public debt stock (KNBS) to gross domestic product (GDP) has been chosen as the indicator of fiscal dominance. KNBS is a comprehensive measure that reflects the impact of public finances on market conditions, as it includes both domestic and external debt. Compared to other fiscal dominance indicators, the broad scope and frequent use of KNBS as a general measure of economic stress make it a suitable choice for this study.

The independent variables selected are Credit Default Swap (CDS) premiums and the nominal exchange rate (USD/TRY selling price). CDS premiums are critical

indicators that measure a country's market risk perception and external borrowing costs. Particularly in emerging markets, CDS premiums play a significant role as a reflection of uncertainties in financial markets. The nominal exchange rate, on the other hand, represents the supply-demand dynamics in foreign exchange markets and reflects investors' market perceptions, making it an essential independent variable for understanding the economic effects of fiscal dominance.

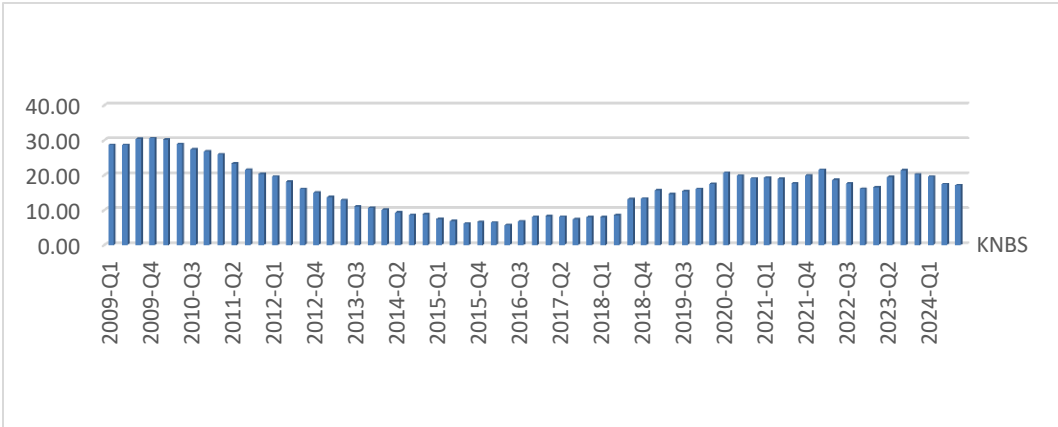
For econometric analysis, the stationarity levels of the series were determined using the DF-GLS and Phillips-Perron unit root tests. The Fourier-Shin cointegration test was applied to identify long-term relationships, and the Dynamic Ordinary Least Squares (DOLS) method was employed to estimate long-term coefficients. Short- and long-term causal relationships were analyzed using the Breitung and Candelon (2006) Frequency Domain Causality Test. These methods were chosen due to their consideration of the characteristics of the series and their ability to evaluate both short- and long-term relationships in detail.

In conclusion, this study aims to contribute significantly to the literature by evaluating the relationships between fiscal dominance and financial indicators through a contemporary and comprehensive methodological approach. The findings are expected to provide valuable insights for policymakers and academics interested in understanding the effects of public debt on economic and financial markets.

2. THEORETICAL FRAMEWORK

The concept of fiscal dominance, proposed by Sargent and Wallace (1981), suggests that uncontrolled fiscal policies ultimately lead to an increase in the money supply, thereby raising the general price level. This structure, shaped by extensive borrowing, causes fluctuations in interest rates, shifting the balance between real interest rates and economic growth rates in favor of real interest rates. This process results in monetary policy tools moving beyond the scope of controlling price levels, creating risks for fundamental economic indicators such as inflation and debt sustainability. Fiscal dominance is defined as a constraint imposed by high public debt on the effectiveness of monetary policies. Particularly, when debt is short-term and denominated in foreign currency, it leads to an increase in risk premiums and weakens monetary policies (Özatay, 2009, p. 19).

In summary, fiscal dominance is a situation in which increasing borrowing and money supply policies to finance public expenditures undermine the independence and effectiveness of monetary policies. This concept is often associated with the disruption of macroeconomic balances due to the rise in risk premiums and strengthening inflationary pressures, especially in cases where public debt is high, short-term, and denominated in foreign currency. While fiscal dominance increases the state's weight in the economic system, it can create negative effects on financial stability and sustainable growth. The fiscal dominance ratio for the study's sample period is presented in Figure 1.



Source: (TCMB, 2024)

Figure 1: Net Public Debt Stock/GDP (%)

Figure 1 illustrates the changes in fiscal dominance rates from the first quarter of 2009 to the third quarter of 2024. At the beginning of the period under review, fiscal dominance rates were considerably high and showed a gradual decline until 2013. This decrease suggests improved fiscal discipline or a more balanced fiscal policy structure. During the 2013–2018 period, fiscal dominance rates exhibited a stable trend at lower levels. However, from 2018 onwards, an upward trend in fiscal dominance rates was observed. This increase may be associated with rising public borrowing or the expansion of fiscal policies. Despite fluctuations in fiscal dominance rates after 2021, they generally remained at high levels. This situation suggests that increasing fiscal dominance could limit the effectiveness of monetary policy and heighten economic risks.

In the context of the Turkish economy, the limited effectiveness of tight monetary policies in reducing entrenched inflation rates draws attention to the concept of the "price puzzle." The price puzzle refers to a phenomenon where tight monetary policies in inflation-targeting developing countries result in higher price levels instead of reducing them as expected. In the existing literature, the concept of "price puzzle" introduced by Sims (1992) has an important place regarding the unexpected effects of tight monetary policies on price levels. Sims explained this as a transition effect arising from the implementation of tight monetary policies before inflationary pressures. In particular, central banks' raising interest rates in anticipation of high inflation may lead to price increases in the short run, delaying the expected deflationary effects. Sims' work emphasizes the use of VAR (Vector Autoregression) models to analyze the price puzzle and argues that this phenomenon is the result of complex relationships between tight monetary policy and macroeconomic variables (Sims, 1992, pp.975-980). This situation stems from the reduced effectiveness of monetary policies due to high fiscal dominance. Particularly in countries with short-term foreign currency-denominated public debt, increased country risk premiums accelerate capital outflows, exerting upward pressure on prices (Blanchard, 2004, p. 4).

Since fiscal dominance has a pervasive impact on the entire economic system, multiple indicators are used to measure this concept. In this study, fiscal dominance is represented by the ratio of net public debt stock to gross domestic product (GDP), as

emphasized by Ersel and Özatay (2008). To analyze the interaction of fiscal dominance with various indicators, the study includes nominal exchange rates (USD/TRY) and CDS premiums as additional variables.

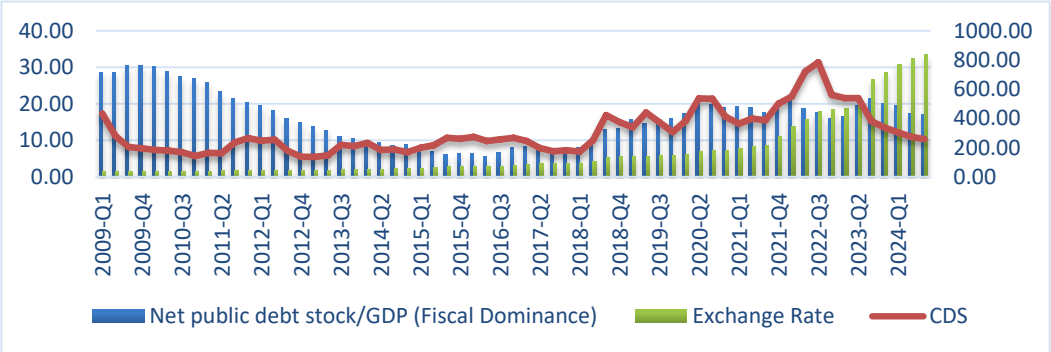
The selection of nominal exchange rates and CDS premiums as independent variables is based on their critical roles in understanding the effects of fiscal dominance and economic risks. Both variables are among the key indicators that directly affect a country's economic dynamics, enabling a more in-depth analysis of the outcomes of fiscal dominance.

The nominal exchange rate reflects the overall balance of foreign exchange markets and external economic relations in an economy. Particularly under high fiscal dominance, the large proportion of public debt denominated in foreign currency makes exchange rate changes more critical in terms of fiscal stress (Calvo & Reinhart, 2000, p. 25). Increases in exchange rates elevate the debt burden, widen budget deficits, constrain fiscal policy flexibility, and intensify fiscal dominance. Moreover, fluctuations in nominal exchange rates can increase import costs, trigger inflationary pressures, and limit the effectiveness of monetary policies (Frankel, 2005, p. 15). Therefore, the nominal exchange rate is evidently a crucial variable for analyzing the economic consequences of fiscal dominance.

CDS premiums, on the other hand, represent a key indicator of market perception regarding a country's default risk. High CDS premiums indicate increased country risk and external borrowing costs (Longstaff, Pan, Pedersen, & Singleton, 2011). In cases of heightened fiscal dominance, uncertainties surrounding the sustainability of public borrowing lead to higher CDS premiums. This underscores the role of CDS premiums in understanding how fiscal dominance is perceived in markets and its impact on economic dynamics. Additionally, as CDS premiums directly affect external borrowing costs, they serve as a critical determinant of the feasibility of fiscal policies and the manageability of public debt (Dell'Ariccia & Marquez, 2006).

In conclusion, nominal exchange rates and CDS premiums are essential and complementary variables for analyzing the internal and external risks associated with fiscal dominance. While nominal exchange rates provide insights into debt sustainability and economic balances, CDS premiums enable the evaluation of the effects of country risk and market perception on fiscal dominance. For this reason, these two variables are indispensable tools for examining the economic impacts of fiscal dominance in greater depth. Figure 2 presents the net public debt stock/GDP ratio, nominal exchange rate (selling price), and CDS premiums for Türkiye.

The relationship among these three variables in the graph highlights a dynamic interaction in terms of public debt sustainability, nominal exchange rate movements, and CDS premiums. Particularly after 2018, a significant interplay between these variables becomes evident. The increase in CDS premiums indicates a rise in the country's credit risk and concerns over debt sustainability. This rise exerted pressure on nominal exchange rates, leading to an appreciation of foreign exchange rates, which, in turn, increased the cost of foreign currency-denominated debt, driving up the ratio of public debt stock to GDP.



Source: (TCMB, 2024)

Figure 2: Interaction of Fiscal Dominance with CDS and Exchange Rate (USD/TRY)

The movements in the nominal exchange rate, particularly during the 2020–2021 period, accelerated simultaneously with the sharp increase in CDS premiums. The global economic uncertainties and rising internal risks during this period led to a significant surge in CDS premiums, which in turn caused severe fluctuations in exchange rates. These increases in exchange rates elevated the cost of foreign currency-denominated public debt, driving the ratio of public debt stock to GDP higher.

Moreover, the high levels of CDS premiums created a negative perception of the country's financial stability, which adversely affected both the sustainability of public debt and economic growth. The simultaneous rise in CDS premiums and nominal exchange rates clearly illustrates how fiscal dominance is linked to economic risks. From the perspective of public debt sustainability, it is evident that both the nominal exchange rate and CDS premiums need to be maintained at stable levels.

In conclusion, the increase in CDS premiums has been observed to trigger a rise in nominal exchange rates, negatively impacting the ratio of public debt stock to GDP. This highlights a strong interaction among these three variables. This situation underscores the necessity for policymakers to ensure careful coordination in managing macroeconomic risks. Specifically, controlling the fluctuations in CDS premiums and nominal exchange rates is critically important for ensuring the sustainability of public debt.

3. LITERATURE REVIEW

The relationships between fiscal dominance, financial development, economic growth, and macroeconomic variables have long been central topics of discussion in economic literature. This review compiles key findings from studies on fiscal dominance and its effects on financial systems, exploring the interactions of these concepts across different periods and countries. Additionally, studies examining the relationship between stock market returns and macroeconomic variables, as well as the impact of economic policies on market dynamics, are also included.

The initial studies on the relationship between financial development and economic growth were pioneered by Schumpeter (1912). Patrick (1966) and Foster

(1981) argued that economic growth promotes financial development, while Von Hagen and Strauch (2001) explored the effects of fiscal stability on economic resilience. Nachega (2005) investigated the long-term impact of fiscal dominance on money supply and inflation in the Democratic Republic of Congo.

In the context of the Turkish economy, Sel (2007) analyzed the effects of fiscal dominance on inflation targeting in Türkiye, while Artar and Sarıdoğan (2014) examined the implications of fiscal dominance on macroeconomic stability through an empirical approach. Aktas, Kaya, and Özlale (2010) demonstrated that inflation targeting could increase price stability due to a lack of fiscal discipline. Arabacı and Baştürk (2013) analyzed the effectiveness of the interest rate channel during the 2001–2008 period in Türkiye, while Özaktaş (2014) examined the relationship between budget deficits and inflation, emphasizing the need for the simultaneous implementation of monetary and fiscal policies. Fidan (2015) studied the relationships between capital adequacy and fiscal dominance.

The effects of systemic risk on market dynamics also constitute a significant area of research. Melitz (1997) examined the reactions of fiscal and monetary policies in European Union countries and supported the Ricardian regime's principles. Canzoneri et al. (1998, 2001) focused on the post-war period in the United States, evaluating the effects of budget surpluses on public debt. Blanchard (2004) analyzed the impact of risk perception on interest rates and exchange rates, noting that low-risk perceptions encourage foreign capital inflows. Favero and Giavazzi (2004) investigated the adverse effects of debt structures on economies through multi-variable models. Ertunga (2013) studied the effects of national monetary policies in Eurozone countries, while Bölükbaş and Topal (2017) analyzed the impact of fiscal dominance on central bank independence.

Studies on the macroeconomic variables affecting stock market performance have provided valuable insights. Gjerde and Sættem (1999) examined the relationship between stock returns and interest rates in Norway, while Koch and Saporoschenko (2001) studied these relationships in Japan. Rapach et al. (2005) evaluated the impact of macroeconomic variables on stock market returns in industrialized countries. Ayaydın and Dağlı (2012) analyzed the factors influencing stock returns in emerging markets, while Büberökü (2013) focused on the relationships between exchange rates and stock prices across various countries. Gupta and Modise (2013) explored the effects of variables such as interest rates and inflation on South Africa's stock market.

Recent studies on the effects of economic policies include Cochmne (1999) and Woodford (2001), who analyzed the relationship between budget surpluses and public debt in the United States. Favero (2002) examined the impacts of fiscal and monetary policies on macroeconomic variables in European countries. Zoli (2005) explored the relationship between fiscal policy and exchange rates, while Naini and Naderian (2018) investigated the effectiveness of monetary policy under fiscal dominance in Iran.

Fiscal dominance, financial development, economic growth, and stock market performance studies collectively demonstrate the interconnected nature of economic policies and market dynamics. The literature employs diverse models and methods to better understand these interactions. These studies offer important implications for policymakers and researchers, providing a foundation for future inquiries.

4. DATA SET AND METHODOLOGY

The econometric model in this study was constructed using quarterly data from 2009:Q1 to 2024:Q3. The primary objective of the study is to determine the effects of fiscal dominance on exchange rate volatility and market risk perception. The dependent variable selected for the model is the ratio of net public debt stock to gross domestic product (GDP), a key fiscal dominance indicator. This variable was chosen for its strong representation of domestic market dynamics.

The independent variables in the model include Türkiye's Credit Default Swap (CDS) premiums and the nominal exchange rate (USD/TRY selling price). The inclusion of the USD/TRY nominal exchange rate in the model is justified by its ability to effectively reflect daily market movements, as well as its capacity to capture investor and market perceptions of foreign exchange demand and pricing.

Descriptive information about the data used in the study is presented in Table 1.

Table 1: Descriptive Information on Variables

Variable	Notation	Definition	Transformation	Source
KNBS	KNBS	Net public debt stock/GDP	-	Republic of Türkiye Ministry of Treasury and Finance
CDS	lnCDS	5-year CDS premiums	Logarithmic	Investing.com
NKUR	lnNKUR	Nominal USD/TRY exchange rate (selling)	Logarithmic	TCMB(EVDS)

All variables, except "KNBS," have been subjected to natural logarithmic transformation to ensure that observation values with different units convey the same type of meaning. The "ln" notation indicates that the logarithm of the series has been taken.

$$KNBS_t = \beta_0 + \beta_1 lnCDS_t + \beta_2 lnNKUR_t + \varepsilon_t \quad (1)$$

The model under analysis is presented in Equation (1). In the econometric model given in Equation (1), the notations β0 and εt represent the constant term and the error term, respectively. The parameters from β0 to β2 denote the coefficients of the explanatory variables included in the function.

In the first stage of the study, traditional unit root tests, namely the Dickey-Fuller Generalized Least Squares (DF-GLS) and Phillips-Perron (1988) (PP) unit root tests, were employed to determine the stationarity levels of the series. Subsequently, to identify the long-term relationships among the series, the Fourier-Shin cointegration test, developed based on Fourier methodology, was utilized as the cointegration test. Dynamic Ordinary Least Squares (DOLS) was applied as the estimator for long-term coefficients. Finally, Breitung and Candelon (2006) frequency domain causality tests were conducted, and the results were interpreted. The methodological details of the empirical tests to be used in subsequent sections of the study will be presented later.

4.1. Unit Root Tests

Stationarity is defined as a property of a time series where its mean, variance, and autocorrelation structure remain constant over time (Enders & Granger, 1998, p. 306). The Dickey-Fuller test is based on an assumption of constant variances and independent error terms, implying a situation where no autocorrelation exists. However, Phillips and Perron (1988) revisited these assumptions of the Dickey-Fuller (1979) test and proposed an alternative approach focusing on random shocks (Sevüktekin & Nargeleçekenler, 2010, p. 366). This new approach provides more flexible solutions, particularly under conditions of autocorrelation and heteroscedasticity. The equations explaining the constant and constant-trend models used in the PP test are as follows:

$$Y_t = \alpha_0 + \beta_1 Y_{t-1} + \varepsilon_t \quad (2)$$

$$Y_t = \alpha_0 + \beta_1 Y_{t-1} + \beta_2 \left(t - \frac{T}{2}\right) + \varepsilon_t \quad (3)$$

The equations (2) and (3) above represent models that include only a constant term and both a constant term and a trend, respectively. In these models, "Y_t" represents the variable under analysis, "α_0" denotes the constant term, "t" represents the trend, and "T" indicates the number of observations, while the error term reflects the uncertainty component within the model. Coefficient estimation is performed using this method. Similar to the Augmented Dickey-Fuller (ADF) test, the results of this test are compared with MacKinnon critical values to determine the stationarity of the series (Tarı, 2010).

The DF-GLS (Dickey-Fuller Generalized Least Squares) test is a unit root test that provides stronger and more effective results compared to the ADF test due to its asymptotic distribution properties. This test was developed by Elliott, Rothenberg, and Stock (1996). To apply the DF-GLS test, it is necessary to first detrend the time series. The detrending process is performed based on the regression equation provided below.

$$\Delta x_t^d = \beta_1 x_{t-1}^d + \sum_{i=1}^{k} \lambda_i \Delta x_{t-i}^d + \varepsilon_t \quad (4)$$

In the equation, x_t^d represents the detrended series according to the DF-GLS method. In this test, the coefficient β_1 is used as the basis for evaluating the stationarity of the series. If the null hypothesis (H_o), $\beta_1 = 0$ is rejected in the estimated equation, it is concluded that the series x_t is stationary (Ceylan & Durkaya, 2010, p. 27).

4.2. Fourier-Shin (FSHIN) Cointegration Test

Developed by Tsong, Lee, Tsai, and Hu (2016), this test differs from similar cointegration tests by assuming cointegration as the null hypothesis. The Fourier-Shin cointegration test is based on the stationarity test developed by Shin (1994) and was introduced due to the inadequacy of the adjustments made by Arai and Kurozumi (2007) to Shin's (1994) cointegration test in allowing for intrinsic structural breaks. Tsong et al.

(2016) enhanced the test by incorporating Fourier functions, enabling the consideration of both abrupt and smooth structural breaks in the long-term relationships between series. The model considered in the Fourier-Shin cointegration test is presented in Equation (9) (Tsong et al., 2016, pp. 1088–1089).

$$y_t = d_t + x_t'\beta + \eta_t \quad (5)$$

In Equation (5), $\eta_t = \gamma_t + v_{1t}, \gamma_t = \gamma_{t-1} + u_t, \gamma_t = 0$ ve $x_t = x_{t-1} + v_{2t}$ are formulated as follows. Since v_{1t} and v_{2t} represent stationarity, , y_t and x_t correspond to variables that become stationary only at their first differences. Here, u_t denotes a zero-mean, independently and identically distributed error term with constant variance σ_u^2 while γt represents a random walk process with a zero mean. The deterministic component d_t given in Equation (5) is defined as follows:

$$d_t = \sum_{i=0}^{m} \delta_i t^i + f_t \quad (6)$$

In the deterministic components given in Equation (6), m=0 corresponds to the constant term, while m=1 represents the case of both constant and trend. f_t denotes the Fourier function, the explicit form of which is provided in Equation (7).

$$f_t = \alpha_1 \sin\left(\frac{2\pi kt}{T}\right) + \alpha_2 \cos\left(\frac{2\pi kt}{T}\right) \quad (7)$$

In Equation (7), (*k*) represents the Fourier frequency value, *t* denotes the trend, and *T* signifies the sample size. For testing the null hypothesis ($H_0 : \sigma_u^2 = 0$) which indicates the existence of a cointegration relationship in the Fourier-Shin cointegration test, Equation (5) is rearranged as follows:

$$y_t = \alpha_0 + \alpha_1 \sin\left(\frac{2\pi kt}{T}\right) + \alpha_2 \cos\left(\frac{2\pi kt}{T}\right) + x_t'\beta + v_{1t} \quad (8)$$

The model to be utilized for the Fourier-Shin cointegration test statistic is provided in Equation (9).

$$CI_f^m = T^{-2}\hat{\omega}_1^{-2}\sum_{t=1}^{T} S_t^2 \quad (9)$$

Here, $S_t = \sum_{t=1}^{T} \hat{v}_{1t}$ represents the partial sum of the residuals obtained from Equation (9), while $\hat{\omega}_1^{-2}$ denotes the consistent estimator of the long-term variance of $\hat{v}_{1t}$. CI_f^m If the statistic is smaller than the critical values provided in the study by Tsong et al. (2016), it is concluded that there is a cointegration relationship among the variables, including structural breaks. However, if the null hypothesis cannot be rejected in the F-test, the trigonometric terms lose their significance, and interpreting the results using the Shin cointegration test instead of the Fourier-Shin cointegration test will yield more consistent outcomes. The hypotheses established for the Fourier-Shin cointegration test are as follows:

$$H_0: \sigma_u^2 = 0$$

$$H_1: \sigma_u^2 > 0$$

At this point, the null hypothesis assumes the existence of cointegration, while the alternative hypothesis argues for the absence of cointegration. If the calculated test statistic value is lower than the critical value, it is concluded that there is a cointegration relationship among the variables; otherwise, the null hypothesis is rejected, and the alternative hypothesis is accepted. In such a case, it is determined that there is no cointegration relationship among the variables. Based on the analysis results, since a cointegration relationship among the variables has been identified, the long-term coefficients will be estimated using the Dynamic Ordinary Least Squares (DOLS) method.

4.3. Dynamic Ordinary Least Squares (DOLS) Estimation Method

The DOLS method, developed by Stock and Watson (1993), offers significant advantages in estimating cointegration vectors due to its flexibility in application to small samples and its ability to test series with different integration orders, such as I(0), I(1), and I(2). The DOLS estimator provides robust estimates, addressing issues like autocorrelation and endogeneity among variables, thereby ensuring consistency compared to similar tests (Hepsağ, 2009, p. 72).

Regardless of whether the variables are I(1) or of a higher integration order I(d), the method is applicable when a cointegration relationship is identified between the dependent and independent variables. The DOLS vector estimation methodology incorporates both the lags and leads of the independent variable into the cointegration equation. In other words, in DOLS analysis, when all variables are I(d) and a single cointegration relationship exists, the dependent variable is regressed on the lagged and leading differences of the other variables to obtain parameter estimates (Çetin & Seker, 2012, p. 97).

The DOLS methodology addresses deviations in static equations by incorporating dynamic elements into the equations. This technique, which utilizes Monte Carlo simulation, achieves effective results in cases with a limited number of observations and heterogeneous series (Mark & Sul, 2003, p. 654). The model to be used in the DOLS technique is provided in Equation (10).

$$Z = \alpha + X'\beta + \sum_{i=-p}^{p} \gamma \Delta x_{t+1} + \mu_t \qquad (10)$$

In Equation (10), p, α, μ_t represent the lag length (AIC), the constant term, and the error term, respectively. The notations Z and X correspond to the dependent and independent variables, respectively.

4.4. Breitung and Candelon (2006) Frequency Domain Causality Test

Granger (1969) introduced the concept of causality into the literature, defining it as the inclusion of the lagged values of one variable in the equation of another variable. Various causality tests have been developed in the literature to examine causality relationships between variables. Traditional tests operate in the time domain, offering test statistics to measure causality between variables only within a single time dimension (Aydın, 2020, p. 88).

Granger (1969), Geweke (1982), and Hosoya (1991) are prominent figures who contributed frequency-based causality tests and their application methods to the literature. Geweke and Hosoya proposed a causality measure in the frequency domain by decomposing spectral density functions across specific frequency ranges. Building on these approaches, Breitung and Candelon (2006) developed a frequency-based causality test to evaluate potential causality relationships. They suggested using the Vector Autoregression (VAR) model presented in Equations (16) and (17) for this purpose (Breitung & Candelon, 2006, pp. 363–369).

$$Y_t = \theta_{11,1}Y_{t-1} + \theta_{11,2}Y_{t-2}, \dots, +\theta_{11,p}Y_{t-p} + \theta_{12,1}X_{t-1} + \theta_{12,2}X_{t-2}, \dots, \theta_{12,p}X_{t-p} \quad (11)$$

$$X_t = \theta_{21,1}Y_{t-1} + \theta_{21,2}Y_{t-2}, \dots, \theta_{21,p}Y_{t-p} + \theta_{22,1}X_{t-1} + \theta_{22,2}X_{t-2}, \dots, \theta_{22,p}X_{t-p} \quad (12)$$

The model presented in Equations (11) and (12) is expressed in matrix form using the lag operator (L) as follows:

$$\varphi(L) = \begin{pmatrix} Y_t \\ X_t \end{pmatrix} = \begin{pmatrix} \varphi_{11}(L) & \varphi_{12}(L) \\ \varphi_{21}(L) & \varphi_{21}(L) \end{pmatrix} \begin{pmatrix} X_t \\ Y_t \end{pmatrix} = \begin{pmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{pmatrix} \quad (13)$$

$\varphi(L) = I - \varphi_1 L - \varphi_2 L^2 - \cdots - \varphi_p L^p$, 2x2 while representing the lag polynomial, $\varphi_1 - \varphi_2 - \varphi_3 - \cdots - \varphi_p$ 2×2 autoregressive parameter matrix. Breitung and Candelon (2006) identified ε_{1t} and ε_{2t} as the error vector representing white noise in the equation. By applying Cholesky decomposition, the expression representing the moving average of the VAR model is as follows:

$$\begin{pmatrix} Y_t \\ X_t \end{pmatrix} = \psi(L)\eta_t = \begin{pmatrix} \psi_{11}(L) & \psi_{12}(L) \\ \psi_{21}(L) & \psi_{22}(L) \end{pmatrix} \begin{pmatrix} \eta_{1t} \\ \eta_{2t} \end{pmatrix} \quad (14)$$

$\psi(L) = \varphi(L)^{-1}G^{-1}, E(\eta_t, \eta_t) = I$ and $\eta_t = G\varepsilon_t$ represent the relationships. Based on this equation, the spectral density of x_t is expressed as follows:

$$f_x(\omega) = \frac{1}{2\pi}\left\{\left|\psi_{11}(e^{-i\omega})\right|^2 + \left|\psi_{12}(e^{-i\omega})\right|^2\right\} \quad (15)$$

The causality measure proposed in the studies by Geweke (1982) and Hosoya

(1991) has been reformulated as presented in Equation (16):

$$M_{x\to y}(\omega) = \log\left[1 + \frac{\left|\psi_{12}(e^{-i\omega})\right|^2}{\left|\psi_{11}(e^{-i\omega})\right|^2}\right] \quad (16)$$

In Equation (16), at frequency ω the test examines whether Y_t is not a Granger cause of X_t. The Breitung and Candelon (2006) approach is expressed through the following linear restrictions:

$$\sum_{k=1}^{p} \theta_{12,k} \cos(k\omega) = 0, \sum_{k=1}^{p} \theta_{12,k} \sin(k\omega) = 0 \quad (17)$$

$$\sum_{k=1}^{p} \theta_{12,k} \cos(k\omega) = 0, \sum_{k=1}^{p} \theta_{12,k} \sin(k\omega) = 0 \quad (18)$$

Based on these restrictions, a standard F-test can be conducted to test the null hypothesis, which implies the absence of Granger causality at frequency ω. The F-statistic, under the assumption $\omega \in (0,\pi)$ follows an $F(2,T-2p)$ distribution, where 2 represents the number of restrictions. Here, *T* denotes the number of observations, and *p* represents the order of the VAR model.

5. FINDINGS

This study aims to analyze the relationships between fiscal dominance and key economic indicators in the Turkish economy using quarterly data for the period 2009:Q1–2024:Q3. The ratio of net public debt stock to GDP was used as the fiscal dominance indicator, while CDS premiums and the nominal exchange rate were selected as independent variables.

As part of the econometric analysis, both DF-GLS and Phillips-Perron unit root tests were applied to determine the stationarity properties of the series. To model the long-term relationship, the Fourier-Shin cointegration test was utilized; this method provides the advantage of flexibly accounting for structural breaks where traditional cointegration tests fall short. Long-term parameter estimates were obtained using the DOLS estimator, while the Frequency Domain Causality Test was applied to analyze the causality relationships among the variables in the frequency domain.

This methodological approach enables a more comprehensive evaluation of the relationships between fiscal dominance and economic indicators in both the short and long term. Graphical representations of the series are provided in Figure 3.

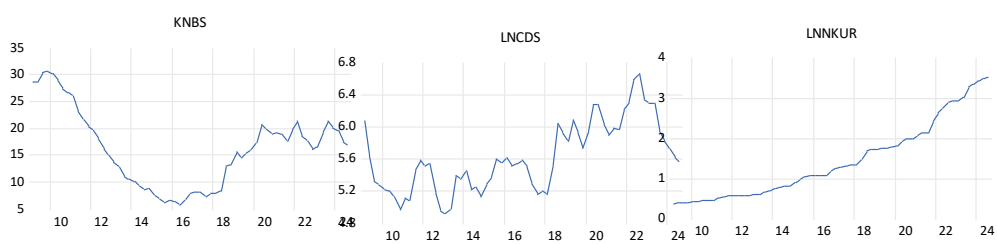


Figure 3: Time Paths of Variables

When examining the graphs of the variables used in this study, it was observed that the series exhibit significant trends. This situation could make the results of traditional methods in stationarity tests misleading. Therefore, the DF-GLS unit root test was included in the stationarity analysis to detrend the series. The DF-GLS test stands out by removing the deterministic trend in the series, thereby improving the accuracy of the stationarity analysis. This approach allowed for a more accurate evaluation of the structural properties of the series and enhanced the reliability of the analysis results. The results of the DF-GLS and PP unit root tests are presented in Table 2

Table 2: DF-GLS and PP Unit Root Test Results

DF-GLS	**Level I(0)**	
Variables	*Constant*	*Constant + Trend*
KNBS	-0.624(0)	-2.604(7)
lnCDS	-1.571(0)	-2.026(0)
lnNKUR	2.028(1)	-0.764(1)
	First Difference I(1)	
DKNBS	-5.701(0)***	-5.921(0)***
lnDCDS	-3.467(0)***	-5.021(0)***
lnDNKUR	-4.630(0)***	-5.795(0)***
Phillips - Perron (1988)	**Level I(0)**	
Variables	*Constant*	*Constant + Trend*
KNBS	-1.777	-1.369
(P-Value)	(0.388)	(0.860)
lnCDS	-2.131	-3.670**
(P-Value)	(0.233)	(0.031)
lnNKUR	4.412	-0.391
(P-Value)	(0.999)	(0.985)
	First Difference I(1)	
lnDKNBS	-5.641***	-5.957***
(P-Value)	(0.000)	(0.000)
lnDCDS	-6.397***	-6.306***
(Olasılık Değeri)	(0.000)	(0.000)
lnDNKUR	-4.935***	-5.468***
(P-Value)	(0.000)	(0.000)

Note: *, **, and *** indicate significance levels at 10%, 5%, and 1%, respectively. The notation "D" signifies that the first difference of the series has been taken. In the DF-GLS test, the values in parentheses represent the optimal lag lengths determined using the Schwarz Information Criterion (SIC). Critical values for the DF-GLS test were obtained from the critical table developed by Elliott et al. (1996).

Initially, the stationarity levels of the variables were examined using the DF-GLS unit root test, based on the generalized least squares method developed by Elliott, Rothenberg, and Stock (1996), and the Phillips-Perron (1988) unit root test, both of which are effective for small sample sizes. In the PP test, it was determined that all three series exhibited unit roots at their level values, except for the lnCDS variable, which was statistically significant at the 5% level in the constant and trend model. At the first difference, all series demonstrated strong stationarity (1%).

After establishing that the variables became stationary at their first differences

I(1), the Shin and Fourier-Shin cointegration tests were applied to identify long-term relationships. The findings from these tests are presented in Table 3.

Table 3: Fourier-Shin Cointegration Test Results

Models	MinKKT	Frekans(k)	CI_f^m	CI^m	*F Test İst.*
$KNBS = f(lncds)$	240.262	1	0.142*	0.275	360.047†
$KNBS = f(lnnkur)$	46.709	1	0.057***	0.245	2168.51†

Note: For k=1, the constant model M=0, and the number of independent variables p=1, the table values are 0.095, 0.124, and 0.198 for 10%, 5%, and 1% significance levels, respectively. Critical values for the F-test statistic are 1%=5.774, 5%=4.066, and 10%=3.352. CI_f^m represents the Fourier-Shin test statistic, and CI^mrepresents the Shin test statistic. † indicates the significance of trigonometric terms at the 1% level.

First, the F-test statistic, which examines the significance of trigonometric terms, was analyzed. The obtained F-test statistic value was greater than the critical values. Therefore, the cointegration relationship was interpreted based on the Fourier-Shin results. According to the findings, a cointegration relationship at the 10% significance level was identified between the ratio of net public debt stock to GDP (KNBS) and CDS premiums (0.142455<0.198 Similarly, a strong cointegration relationship at the 1% significance level was found between KNBS and the nominal exchange rate under the same model and conditions. These findings reveal the existence of a long-term relationship among the variables and support the econometric validity of the model.

Table 4: Long-Term Coefficient Estimates Using the DOLS Method

Models	$KNBS = f(lncds)$		$KNBS = f(lnnkur)$	
Variables	Coefficient	p-değeri	Coefficient	p-value
Lncds	2.586	0.504	-	-
Lnnkur	-	-	0.5745	0.785
Constant Term	1.495	0.949	15.156***	0.003
CC	0.152	0.871	0.212	0.780
SS	2.397	0.167	2.493**	0.015

Note: *, **, *** denote significance levels of 0.01, 0.05, and 0.10, respectively. C: Constant Term, T: Trend Term.

The coefficients of the cointegrated structure, which signifies the long-term movement of variables together, were estimated using the Dynamic Ordinary Least Squares (DOLS) method developed by Stock and Watson (1993). The findings of the DOLS method are presented in Table 4:

In Table 4, long-term coefficient estimates for the ratio of net public debt stock to GDP (KNBS) and the variables of CDS premiums and nominal exchange rate were calculated using the DOLS method. The coefficient for CDS premiums was estimated as 2.586; however, with a p-value of 0.504, it was not statistically significant. The constant term coefficient was 1.495, with a p-value of 0.949, indicating no statistical significance. For the trend term, the coefficient was calculated as 2.397, and with a p-value of 0.167, it

was also not statistically significant. These results suggest no statistically interpretable long-term relationship between CDS premiums and KNBS.

For the nominal exchange rate, the coefficient was calculated as 0.5745, but with a p-value of 0.785, no statistical significance was identified. However, the constant term coefficient was 15.156, with a p-value of 0.003, making it statistically significant at the 1% level. The trend term coefficient was 2.493, with a p-value of 0.015, and it was statistically significant at the 5% level. These findings highlight that the effects of the constant and trend terms are significant in the long-term relationships between the nominal exchange rate and KNBS. Consequently, the relationship between the nominal exchange rate and KNBS exhibits a stronger structure in the long term through the constant and trend terms. In summary, while the long-term cointegration effect was identified, the coefficients were not found to be statistically significant.

To verify the accuracy of the long-term relationship not detected in the DOLS method, the Breitung and Candelon (2006) Frequency Domain Causality Test, which allows testing based on frequency dimensions, was applied. An important advantage of the frequency domain causality test is its ability to investigate time in greater detail rather than as a single-dimensional factor, as in other causality tests. The results are reported in Table 5.

Table 5: Breitung and Candelon (2006) Frequency Domain Causality Test

Direction of Causality (Transient)			**Long-Term (Permanent)**	**Short-Term**
			ω = 0.05	**ω = 2.5**
KNBS	**≠>**	**CDS**	0.4234 (0.8092)	1.0238 (0.5993)
CDS	**≠>**	**KNBS**	0.0436 (0.9785)	2.0883 (0.3520)
KNBS	**≠>**	**NKUR**	1.0169 (0.6014)	1.5475 (0.4613)
NKUR	**≠>**	**KNBS**	1.0946 (0.5785)	0.0429 (0.9788)

Note: For ω (frequency) within 0 ve π, $\omega \in (0, \pi)$, the F table value with (2,T−2p) degrees of freedom is approximately 2.49 at the 10% significance level. * Indicates the rejection of the null hypothesis at the 10% significance level. The values in parentheses represent the p-values of the F statistics.

The frequency domain causality test enables the separation of causality dynamics between variables into transient (short-term) and permanent (long-term) effects. To achieve this separation, test statistics are calculated at different frequencies. For transient causality analysis, high-frequency values (ω=2.5) are used, while for permanent causality analysis, low-frequency values (ω=0.05) are utilized. This approach allows the separate evaluation of short- and long-term effects and provides a more detailed examination of causality relationships in the time dimension.

According to the results of the frequency domain causality test presented in the table, no significant causality relationship was found between the ratio of net public debt stock to GDP (KNBS), CDS premiums, and the nominal exchange rate in either the short or long term. The causality effect of KNBS on CDS premiums was statistically insignificant in the short term (F=1.0238,p=0.5993) and in the long term (F=0.4234,p=0.8092). Similarly, the effect of CDS premiums on KNBS was also

insignificant in the short term (F=2.0883,p=0.3520) and in the long term (F=0.0436,p=0.9785).

When examining the relationship between KNBS and the nominal exchange rate, the effect of KNBS on the nominal exchange rate was statistically insignificant in the short term (F=1.5475,p=0.4613) and in the long term (F=1.0169,p=0.6014). Likewise, the effect of the nominal exchange rate on KNBS was insignificant in the short term (F=0.0429,p=0.9788) and in the long term (F=1.0946,p=0.5785).

These findings suggest that the concept of fiscal dominance is primarily influenced by a country's internal conditions and economic dynamics. Indicators such as CDS premiums and the nominal exchange rate may not serve as reliable predictors of fiscal dominance. Furthermore, as fiscal dominance is a multidimensional concept affecting various aspects of a country's economy, broader fiscal dominance indicators should be considered instead of KNBS, which primarily focuses on short-term debt stock.

In conclusion, despite the identified cointegration relationship among the series, the interaction of CDS premiums and the nominal exchange rate with KNBS holds limited significance. This highlights the need for a more comprehensive examination of fiscal dominance dynamics in conjunction with different economic indicators.

In conclusion, despite the identified cointegration relationship among the series, the interaction of CDS premiums and the nominal exchange rate with KNBS holds limited significance. This underscores the need for fiscal dominance dynamics to be examined more comprehensively with different economic indicators.

6. CONCLUSION

Fiscal dominance is a critical concept that directly affects a country's economic stability and sustainable growth potential. Representing the financial pressures of public borrowing on markets, this concept plays a decisive role not only in the state's economic decision-making processes but also in the overall functioning of the financial system. Particularly in developing economies, fiscal dominance can increase vulnerabilities by affecting various macroeconomic indicators such as interest rates, exchange rates, capital flows, and risk premiums. The findings of this study reveal the multidimensional effects of fiscal dominance, which extend beyond financial indicators, emphasizing why this concept must be carefully considered in the design of economic policies. Therefore, managing fiscal dominance and monitoring it through appropriate indicators are vital for ensuring economic stability.

This study examined the long-term and short-term relationships between the ratio of net public debt stock to GDP (KNBS), used as an indicator of fiscal dominance in the Turkish economy, and CDS premiums and the nominal exchange rate. The analysis used quarterly data covering the period 2009:Q1–2024:Q3. The findings highlight various dimensions of the relationships between fiscal dominance and financial market indicators.

According to the Fourier-Shin cointegration test results, a cointegration relationship was identified between KNBS and CDS premiums at the 10% significance level and between KNBS and the nominal exchange rate at the 1% significance level. This indicates that the variables moved together in the long term during the analyzed

period. However, the long-term coefficients estimated using the Dynamic Ordinary Least Squares (DOLS) method showed that the effects of the independent variables (CDS premiums and nominal exchange rate) on KNBS were not statistically significant. This suggests that despite the cointegration relationship, the long-term interactions among the variables were not pronounced.

The results of the frequency domain causality test showed no significant causality relationship between KNBS, CDS premiums, and the nominal exchange rate in either the short or long term. This finding indicates that external indicators such as CDS premiums and the nominal exchange rate do not play a determining role in fiscal dominance.

The findings of this study show both similarities and differences with various studies in the literature that examine the relationship between fiscal dominance and market risk perception. Sel (2007) examined the impact of fiscal dominance on inflation targeting in the Turkish economy and revealed that public borrowing significantly affects macroeconomic stability. Similarly, Aktas, Kaya, and Özlale (2010) emphasized the adverse effects of a lack of fiscal discipline on price stability, supporting the "price puzzle" phenomenon. Favero and Giavazzi (2004) analyzed the negative effects of debt structures on economies, showing that public borrowing increases market risk perception. These studies support the findings of this study regarding the relationship between CDS premiums and debt sustainability.

On the other hand, some studies in the literature present differing findings. For instance, Acharya and Rajan (2013) argued that fiscal dominance has limited effects on the banking sector, depending on government policies and financial structures. However, this study finds that fiscal dominance has a more pronounced impact on market risk perception. Similarly, Ertunga (2013) highlighted that international factors are more influential than national monetary policies in the Eurozone. In contrast, this study provides a different perspective by focusing on Türkiye's unique dynamics. Additionally, Melitz (1997) investigated fiscal and monetary policy responses in European Union countries, supporting Ricardian regime principles. Contrary to this, the relationship between fiscal dominance and market risk perception in Türkiye appears to have a different structure.

These comparisons demonstrate that this study contributes significantly to the literature by analyzing the macroeconomic dynamics specific to Türkiye. Particularly, the use of methods such as the Fourier cointegration test and the Breitung and Candelon Frequency Domain Causality Test addresses some of the methodological gaps in the literature. In this regard, the study aims to fill an important gap both theoretically and practically.

These findings also suggest that fiscal dominance is more influenced by a country's internal economic dynamics and public borrowing structure. External financial indicators such as CDS premiums and nominal exchange rates are insufficient to explain fiscal dominance. Furthermore, the multidimensional nature of fiscal dominance necessitates analysis using broader indicators. For example, incorporating alternative fiscal dominance indicators that include long-term borrowing dynamics or the sustainability of budget deficits could yield more comprehensive and meaningful results.

In conclusion, while cointegration relationships were identified between public

borrowing and financial market indicators, no causality relationships were found. This highlights the complex nature of fiscal dominance and the need for more extensive analyses to understand its interactions with economic indicators. The findings of this study indicate that focusing solely on one indicator to analyze fiscal dominance would be inadequate. Instead, policy recommendations should consider specific indicators that reflect the wide-ranging macroeconomic dynamics influenced by fiscal dominance to aid policymakers in making more informed decisions.

REFERENCES

Acharya, V. V., & Rajan, R. G. (2013). Sovereign debt, government myopia, and the financial sector. *The Review of Financial Studies, 26*(6), 1526-1560. https://doi.org/10.1093/rfs/hht014

Aktaş, Z., Kaya, N. ve Özlale, Ü. (2005). *The Price Puzzle in Emerging Markets: Evidence from the Turkish Economy Using "Model Based" Risk Premium Derived from Domestic Fundamentals* (02 No. 05). Ankara.

Artar, D. O. K., & Sarıdoğan, A. A. (2014). Küresel finansal krizin Türkiye'de bankacılık sektörü mali yapısına etkileri. *Marmara Sosyal Araştırmalar Dergisi*(2), 1-17.

Ayaydın, H. ve Dağlı, H. (2012). Gelişen Piyasalarda Hisse Senedi Getirisini Etkileyen Makroekonomik Değişkenler Üzerine Bir İnceleme: Panel Veri Analizi. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, *26*(3–4), 45–65.

Aydın, M. (2020). Enerji Tüketimi- Ekonomik Büyüme İlişkisi: Türkiye İçin Frekans Alanında Nedensellik Yaklaşımı. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, (56), 83-96. doi: 10.18070/erciyesiibd.572506

Aydin, M. K., Ak, M. ve Altıntaş, N. (2014). Finansal Gelişme'nin Büyüme'ye Etkisi: Türkiye Özelinde Nedensellik Analizi. *Maliye Dergisi, Temmuz-Ara*(167), 149–162.

Arabacı, Ö. ve Baştürk, M. F. (2013). Faiz Oranı Kanalının 2001-2008 Döneminde Türkiye'de Etkinliğinin Değerlendirilmesi. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, *13*(2), 15–34.

Arai, Y., & Kurozumi, E. (2007). Testing for the Null Hypothesis of Cointegration with a Structural Break. *Econometric Reviews, 26*(6), 705-739. doi: 10.1080/07474930701653776

Baştürk, M. F. (2015). The Role Of Fiscal Dominance On The Effectiveness Of Monetary Policy: An Evaluation Of 2002-2012 Period In Turkey. *Yönetim ve Ekonomi Araştırmaları Dergisi*, *13*(3).

Blanchard, O. (2004, Mart). *Fiscal Dominance and Inflation Targeting: Lessons from Brazil* [Working Paper]. National Bureau of Economic Research. doi: 10.3386/w10389

Breitung, J., & Candelon, B. (2006). Testing for short-and long-run causality: A frequency-domain approach. *Journal of econometrics*, *132*(2), 363-378.

Bölükbaş, M. ve Topal, M. H. (2017). *Mali Baskınlığın Merkez Bankası Bağımsızlığı*

Üzerindeki Etkisi: Euro Bölgesine Dahil Olmayan AB Ülkeleri Ve Türkiye Örneği. *II. EUREFE International Congress* (ss. 453–454). Aydın.

Büberökü, Ö. (2013). Hisse Senedi Fiyatları ile Döviz Kurları Arasındaki İlişkinin İncelenmesi: Gelişmiş ve Gelişmekte Olan Ülkelerden Kanıtlar. *İMKB Dergisi*, *13*(52), 1–18.

Calvo, G. A., & Reinhart, C. M. (2000). *Fear of Floating* (Working Paper Sy 7993; ss. 1-64). National Bureau of Economic Research. doi: 10.3386/w7993

Canzoneri, M. B., Cumby, R. E., & Diba, B. T. (2001). Fiscal discipline and exchange rate systems. *The Economic Journal*, *111*(474), 667-690.

Ceylan, S., & Durkaya, M. (2010). Türkiye'de kredi kullanimi-ekonomik büyüme ilişkisi. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, *24*(2), 21-35.

Çetin, M., & Seker, F. (2012). Enerji tüketiminin ekonomik büyüme üzerindeki etkisi:Türkiye örneği. *Bursa Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *31*(1), 85-106.

Cochrane, J. H. (1999, Haziran). *New Facts in Finance* [Working Paper]. National Bureau of Economic Research. doi: 10.3386/w7169

Cole, D. C. (1974). Financial Deepening in Economic Development. *The Journal of Finance*, *29*(4), 1345–1348.

Dell'Ariccia, G., & Marquez, R. (2006). Lending booms and lending standards. *The journal of finance*, *61*(5), 2511-2546.

Elliott, G., Rothenberg, T. J., & Stock, J. H. (1996). *Efficient Tests for an Autoregressive Unit Root* [Working Paper]. National Bureau of Economic Research. doi: 10.3386/t0130

Enders, W., & Granger, C. W. J. (1998). Unit-Root Tests and Asymmetric Adjustment With an Example Using the Term Structure of Interest Rates. *Journal of Business & Economic Statistics*, *16*(3), 304-311. doi: 10.1080/07350015.1998.10524769

Ersel, H., & Özatay, F. (2008). Fiscal dominance and inflation targeting: Lessons from Turkey. *Emerging Markets Finance and Trade*, *44*(6), 38-51.

Ertunga, E. İ. (2013). Avrupa'da Para Politikası ve Maliye Politikaları İlişkisi Üzerine Bir Değerlendirme. *Finans Politik & Ekonomik Yorumlar*, *50*(585), 81–89.

Favero, C. A. (2002). *How Do European Monetary and Fiscal Authorities Behave?* (IGIER Working Papers No. 214). Innocenzo Gasparini Institute for Economis Research.

_____ve Giavazzi, F. (2004). *Inflation Targeting and Debt: Lessons From Brazil* (Nber Working Paper No. w10390). National Bureau of Economic Research.

Fidan, A. (2015). *Bankacılık Sektörü Spesifik Değişkenlerinin Mali Baskınlığa Etkileri: Türkiye Uygulaması (1980-2012).* (Yayımlanmamış Yüksek Lisans Tezi). Gümüşhane: Gümüşhane Üniversitesi Sosyal Bilimler Enstitüsü.

Foster, J. (1981). The Generalisation of the General Theory and Other Essays. *Economic Review*, *91*(364), 1041–1043.

Frankel, J. A. (2005). Contractionary Currency Crashes In Developing Countries The 5th Mundell-Fleming Lecture IMF Annual Research Conference. *IMF Staff Papers*,

2-54.

Fry, M. J. (1978). Money and Capital or Financial Deepening in Economic Development? *Journal of Money, Credit and Banking*, *10*(4), 475.

Geweke, J. (1982). Measurement of Linear Dependence and Feedback between Multiple Time Series. *Journal of the American Statistical Association*, *77*(378), 304-313. doi: 10.1080/01621459.1982.10477803

Gjerde, Ø., & Sættem, F. (1999). Causal relations among stock returns and macroeconomic variables in a small, open economy. *Journal of International Financial Markets, Institutions & Money*, *9*(1)

Goldsmith, R. W. (1959). *Financial Structure and Development as a Subject for International Comparative Study*. *NBER* (Vol. 1). National Bureau of Economic Research.

Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica: journal of the Econometric Society*, *37*(3), 424-438.

Gupta, R. ve Modise, M. (2013). Macroeconomic Variables and South African Stock Return Predictability. *Economic Modelling*, *30*, 612–622.

Gurley, J. G. ve Shaw, E. S. (1955). Financial Aspects of Economic Development. *The American Economic Review*, *45*(4), 515–538.

Hepsağ, A. (2009). Finansal Liberalizasyon Politikalarının Geçerliliğinin McKinnon Tamamlayıcılık Hipotezi Çerçevesinde Sınanması: Türkiye Örneği. *BDDK Bankacılık ve Finansal Piyasalar Dergisi*, *3*(1), 63-80.

Hosoya, Y. (1991). The decomposition and measurement of the interdependency between second-order stationary processes. *Probability Theory and Related Fields*, *88*(4), 429-444. doi: 10.1007/BF01192551

Joines, D. H. (1985). Deficits And Money Growth In The United States 1872-1983. *Journal of Monetary Economics*, *16*(3), 329–351.

Koch, T. W. ve Saporoschenko, A. (2001). The Effect of Market Returns, Interest Rates, and Exchange Rates on The Stock Returns of Japanese Horizontal Keiretsu Financial Firms. *Journal of Multinational Financial Management*, *11*(2), 165–182.

Longstaff, F. A., Pan, J., Pedersen, L. H., & Singleton, K. J. (2011). How Sovereign Is Sovereign Credit Risk? *American Economic Journal: Macroeconomics*, *3*(2), 75-103. doi: 10.1257/mac.3.2.75

Mark, N. C., & Sul, D. (2003). Cointegration vector estimation by panel DOLS and long-run money demand. *Oxford Bulletin of Economics and statistics*, *65*(5), 655-680.

Melitz, J. (1997). *Some Cross-Country Evidence about Debt, Deficits and the Behaviour of Monetary and Fiscal Authorities* (International Macroeconomics No. 1653). *Discussion Papers*. London.

Mercan, M. ve Peker, O. (2013). Finansal Gelişmenin Ekonomik Büyümeye Etkisi. *Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi*, *8*(1), 93–120.

Nachega, J.-C. (2005). *Fiscal Dominance and Inflation in the Democratic Republic of the Congo* (IMF Working paper 05/221). IMF Working Papers.

Naini, A. R. J. ve Naderian, M. A. (2018). Oil Price Cycles, Fiscal Dominance and Countercyclical Monetary Policy in Iran. *OPEC Energy Review*, *43*(1), 3–28.

Özaktaş, F. D. (2014). Fiyat Düzeyinin Belirlenmesinde Yeni Yaklaşımlar ve Türkiye Deneyimi. *Akademik İncelemeler Dergisi*, *3*(1), 157–174.

Özatay, F. (2009). Enflasyon ve Para Politikası. *Türkiye Ekonomisi: Yeni Yapı (2000-2008)*, 1-34.

Özcan, B. ve Ari, A. (2011). Finansal Gelişme ve Ekonomik Büyüme Arasındaki İlişkinin Ampirik Bir Analizi : Türkiye Örneği. *Business and Economics Research Journal*, *2*(1), 121–142

Patrick, H. T. (1966). Financial Development and Economic Growth in Underdeveloped Countries. *Economic Development and Cultural Change*, *14*(2), 174–189.

Phillips, P. C., & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika*, *75*(2), 335-346.

Rapach, D. E., Wohar, M. E. ve Rangvid, J. (2005). Macro Variables and International Stock Return Predictability. *International Journal of Forecasting*, *21*(1), 137–166.

Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. *Federal reserve bank of minneapolis quarterly review*, *5*(3), 1-17.

Sel, T. (2007). *Inflation Targeting And Fiscal Dominance: Evidence From Turkey*. (Yayımlanmamış Yüksek Lisans Tezi). Ankara: Ortadoğu Teknik Üniversitesi Sosyal Bilimler Enstitüsü.

Sevüktekin, M., & Nargeleçekenler, M. (2010). *Ekonometrik zaman serileri analizi: EViews uygulamalı*. Nobel Yayın Dağıtım.

Sezgin, Z. (2015). Kriz Sonrası Türkiye Ekonomisinde Mali Baskınlık. *Trakya Üniversitesi Sosyal Bilimler Dergisi*, *17*(1), 81–94.

Shin, Y. (1994). A Residual-Based Test of the Null of Cointegration Against the Alternative of No Cointegration. *Econometric Theory*, *10*(1), 91-115. doi: 10.1017/S0266466600008240

Sims, C. A. (1992). Interpreting the macroeconomic time series facts: The effects of monetary policy. *European economic review*, *36*(5), 975-1000.

Stock, J. H., & Watson, M. W. (1993). A Simple Estimator of Cointegrating Vectors in Higher Order Integrated Systems. *Econometrica*, *61*(4), 783-820. doi: 10.2307/2951763

Tarı, R. (2010). *Ekonometri* (6. bs). Kocaeli: Umuttepe Yayınları.

TCMB. (2024). EVDS | Tüm Seriler. Geliş tarihi 04 Ocak 2025, gönderen https://evds2.tcmb.gov.tr/index.php?/evds/serieMarket/collapse_4/5896/DataGroup/turkish/bie_pbpanal2/

Tsong, C.-C., Lee, C.-F., Tsai, L.-J., & Hu, T.-C. (2016). The Fourier Approximation And Testing For The Null Of Cointegration. *Empirical Economics*, *51*(3), 1085-1113. doi: 10.1007/s00181-015-1028-6

Von Hagen, J., & Strauch, R. R. (2001). Fiscal consolidations: Quality, economic conditions, and success. *Public Choice*, *109*(3), 327-346

Waters, A. R. ve McKinnon, R. I. (1974). Money and Capital in Economic Development. *Southern Economic Journal*, *41*(1), 160–162.

Woodford, M. (1996). *Fiscal Requirements for Price Stability* (NBER No. w8072). *National Bureau of Economic Research*.

Zoli, E. (2005). *How Does Fiscal Policy Affect Monetary Policy in Emerging Market Countries?* (BIS Working Papers No. 174). Bank for International Settlements.